COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Pricing, based upon Total Element Long-Run Incremental Costs, for Unbundled Network Elements and Combinations of Unbundled Network Elements, and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services in the Commonwealth of Massachusetts	D.T.E. 01-20

REVISED REBUTTAL TESTIMONY OF CATHERINE E. PITTS

ON BEHALF OF AT&T AND WORLDCOM

(switching costs)

August 27, 2001

1 **I.   INTRODUCTION, QUALIFICATIONS AND PURPOSE OF TESTIMONY**

2
3 **Q.   PLEASE STATE YOUR FULL NAME, PRESENT POSITION AND BUSINESS**

4   **ADDRESS.**

5 A.   My name is Catherine E. Pitts (formerly Petzinger). I am

6   an independent contractor working on behalf of AT&T. My

7   address is 810 Long Drive Road, Summerville, South

8   Carolina.

9 **Q.   PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**

10   **TELECOMMUNICATIONS INDUSTRY EXPERIENCE.**

11 A.   I received B.A. in political science and Master of Business

12   Administration degrees from Rutgers University. My

13   telecommunications industry experience includes over twelve

14   years of building cost models, and subsequently leading the

15   Telcordia (formerly Bellcore) group that developed

16   switching cost models, including the Switching Cost

17   Information System ("SCIS").[1] My experience also includes

18   extensive consultation on the use of telecommunications

19   cost models throughout the United States and abroad. I

20   joined Telcordia in 1984 and during my twelve year tenure,

21   was one of three individuals who designed the SCIS/IN[2] model

22   and implemented new incremental costing methodology into

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[1]   SCIS is a family of models that are used by VZ-MA as the foundation to its
       switch cost studies.

[2]   SCIS/IN is the feature costing model in the SCIS family of models.

1   the program. I also was the lead subject matter expert on

2   feature costing in general, as well as a subject matter

3   expert on 1ESS, 1A ESS and 5ESS switches. In approximately

4   1994, when I was promoted to lead Telcordia's SCIS group of

5   approximately 20 people, I had overall responsibility for

6   the technical development, production, documentation,

7   customer care and cost study consultation for the SCIS

8   family of cost models.

9   In 1996, I joined AT&T as a switch cost expert,

10   primarily involved in analyzing incumbent telephone company

11   switching cost studies and testifying to my findings. In

12   May, 2001, I left AT&T to work as an independent contractor

13   performing switch cost study analyses and testifying in

14   switch-related cost proceedings.

15 **Q.**   **HAVE YOU PREVIOUSLY PRESENTED TESTIMONY IN REGARD TO LEC**

16   **SWITCH COST STUDIES?**

17 A.   Yes. I have presented testimony in numerous states

18   regarding unbundled network switching cost studies,

19   including California, Nevada, Hawaii, Texas, Oklahoma,

20   Kansas, Florida, Georgia, Alabama, Tennessee, North

21   Carolina, and South Carolina. Of particular interest in

22   this proceeding, I have testified regarding Verizon's

23   switch cost studies in New York, Rhode Island, and

24   Maryland.

1   **Q.**   **WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

2   A.   I have conducted a detailed analysis of VZ-MA's switching

3   cost claims and submit my findings in this rebuttal

4   testimony on behalf of AT&T and WorldCom. This rebuttal

5   testimony demonstrates that VZ-MA's claimed switch UNE

6   costs substantially exceed forward-looking economic costs

7   and should be rejected. Specifically, the testimony

8   demonstrates that VZ-MA's methodological approach to

9   developing its costs for switching violates long-run

10   forward-looking economic cost principles.

11   First, because VZ-MA's cost study does not assume the

12   purchase of *new* digital switches at new switch prices as

13   defined by VZ-MA's switch vendors, the study does not

14   satisfy basic TELRIC principles for modeling a

15   reconstructed local network. Instead of using the new

16   switch purchase discounts offered by its vendors, VZ-MA

17   relied solely on the "growth" discounts -- available for

18   adding-on capacity to existing switches -- thereby

19   substantially inflating its claimed switch costs.

20   Second, VZ-MA's proposed switch engineering and

21   installation factors are overstated and must be adjusted to

22   reflect the costs of an efficient company operating in a

23   competitive environment.

1   Third, VZ-MA has misallocated substantial costs to the

2   usage-related UNE elements, thereby overstating the UNE

3   minute of use elements.

4   There are numerous additional deficiencies in the

5   study including underutilization of trunks, understated

6   amounts of integrated digital loop carrier ports (IDLC),

7   unsubstantiated and questionable input data used in feature

8   cost development and Right-to-Use (RTU) costs.

9   This testimony also shows that the methodology VZ-MA

10   proposes for development of the switch portion of the

11   reciprocal compensation rates should be rejected. VZ-MA

12   arbitrarily excluded costs that it included in the UNE

13   usage elements from the reciprocal compensation costs.

14   There is no basis to consider switch costs in fundamentally

15   different ways depending upon whether the context is

16   switching UNEs or reciprocal compensation. Consequently,

17   the appropriate switch UNE rates -- identified below after

18   making the required adjustments to VZ-MA's cost study --

19   should serve as the switch component to develop the

20   reciprocal compensation rate.

21   The impacts of each correction in this testimony have

22   been quantified individually. Due to the excessive volume

23   of all the switch workpapers calculating the various input

24   corrections, the complete workpapers have been provided

1   only in electronic form as Exhibit CP-7(revised). An index

2   of filenames of these electronic workpapers has been

3   included in Exhibit CP-6(revised).

4   In addition, restated rates that include all of the

5   corrections discussed in this testimony along with the

6   relevant cost factor changes proposed in Mr. Baranowksi's

7   testimony are attached in Exhibit CP-1(revised). Exhibit

8   CP-1(revised), Page 1, shows the AT&T/WorldCom restated

9   switching rates, restated to reflect the changes to

10   Verizon's cost study that are necessary for the reasons

11   that I explain in this rebuttal testimony. Page 2 of

12   Exhibit CP-1(revised) shows the AT&T/WorldCom restated

13   rates compared to the VZ-MA proposed rates, with the

14   percentage difference. Exhibit CP-5(revised) provides

15   paper copies of the workpapers associated with the

16   corrected or restated rates set forth in

17   Exhibit CP-1(revised). (Electronic copies of these same

18   workpapers are included within Exhibit CP-7(revised).)

19 **Q.**   **WHY ARE YOU FILING THIS REVISED REBUTTAL TESTIMONY?**

20 A.   Some electronic SCIS results, from the electronic backup

21   filed by Verizon as part of its direct case in May of this

22   year, were inaccurate and did not match the results in the

23   hard copy of the workpapers submitted by Verizon.

1   AT&T/WorldCom was unable to replicate the VZ-MA study, so

2   VZ-MA was contacted in late June and advised of the problem

3   and this exchange was memorialized in Mr. Salinger's July 3

4   letter to Mr. Beausejour, a copy of which was provided to

5   the Department and to everyone on the service list.

6   I spoke about this mismatch between Verizon's

7   electronic filing and its paper submission with Robert

8   Beyer of Verizon on or about June 27 and 28. Mr. Beyer

9   confirmed that he saw the same mismatch, that the paper

10   filing was based on and therefore should have matched the

11   electronic inputs, and that the electronic copy of the SCIS

12   model provided by Verizon to AT&T and WorldCom appeared to

13   be the same as the copy that he had. Mr. Salinger

14   therefore wrote to Verizon on July 3, indicating that we

15   would use the electronic results (not the paper copy

16   results) as the accurate foundation upon which to calculate

17   our restatements of VZ-MA's cost study. The concluding

18   paragraph of Mr. Salinger's letter stated the following to

19   Verizon:

20   Since this SCIS model is what Verizon filed as
21   part of the backup for its switching cost study,
22   and since Verizon has confirmed that we have the
23   correct version which produces results matching
24   those obtained by Verizon itself from SCIS, we
25   will rely upon Verizon's representations that
26   this is the correct electronic backup for the

1   material investments in Verizon's switch cost

2   study. In particular, we will rely upon these

3   representations as we prepare rebuttal testimony

4   for filing in less than two weeks.

5   AT&T/WorldCom had no choice but to use the electronic

6   version provided by Verizon to produce restated rates, due

7   to the size and complexity of VZ-MA's switch cost study.

8   On July 27, 2001, VZ-MA submitted a new electronic

9   version of the SCIS model that it relies on in this

10   proceeding, saying that the originally filed electronic

11   database was "fragmented" and therefore corrupted. Verizon

12   said that the new electronic filing was based an "a new,

13   defragmented database file." This meant that all of

14   AT&T/WorldCom's restatements of VZ-MA's switch cost study

15   were based on electronic inputs that Verizon had disavowed

16   and replaced.

17   In preparing this revised rebuttal testimony I used

18   VZ-MA's corrected "defragmented" database to reproduce the

19   restatements and quantification of recommended changes

20   described in the following sections. This testimony and

21   accompanying exhibits replace, in its entirety, my original

22   rebuttal testimony filed on July 18, 2001. The analysis

23   reflected in this revised rebuttal testimony has not

24   changed from my original rebuttal. However, the results of

1   my restatement of VZ-MA's switch cost numbers have changed

2   slightly because they are based on the new electronic

3   submission by Verizon.

4 **II. VZ-MA SWITCH UNE COST OVERVIEW**

5 **Q.   PLEASE EXPLAIN HOW VZ-MA DEVELOPED ITS CLAIMED SWITCH UNE**

6 **COSTS.**

7 A.   VZ-MA used the Telcordia SCIS models to develop claimed

8   port, port additives, and usage investments. Multiple

9   loadings were added for power, engineering, installation,

10   etc. and then annual cost factors were applied to convert

11   the investments to monthly costs and expenses were added to

12   develop the purported TELRIC cost. Then various overhead

13   loadings were added to calculate proposed prices. It is

14   important to note that since the cost study starting point

15   is switching investment, if VZ-MA's investment inputs are

16   wrong, as they clearly are, then VZ-MA's claimed costs and

17   ultimately its proposed switch UNE prices likewise will be

18   wrong, as they are by a wide margin.

1   Q.   DO THE SCIS RESULTS IN ELECTRONIC FORM MATCH THE RESULTS IN

2   VERIZON'S WORKPAPERS?

3   A.   No, the Integrated Digital Loop Carrier (IDLC)

4   investment from SCIS was entered into Verizon's workpapers

5   incorrectly.[3]

6   Q.   IS THIS ERROR SIGNIFICANT WITH RESPECT TO THE COST OF THE

7   SWITCH UNES?

8   A.   Yes it is for the IDLC port.[4] Correcting the IDLC error

9   results in a 44% drop in the IDLC port rate.

10 **III. VZ-MA ERRED IN ITS USE OF GROWTH-ONLY SWITCH PRICES**

11
12 Q.   PLEASE EXPLAIN THE ROLE OF SWITCH PRICES AND SWITCH

13   DISCOUNTS IN VZ-MA'S COST STUDY

14 A.   The SCIS model has only the list prices of switch

15   manufacturers in its databases. In the real world,

16   telecommunications companies do not ever pay the list

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[3]   The outputs from the SCIS Line Termination Report for 5ESS in the electronic version of the SCIS model and backup provided by VZ-MA add up to $44.36, not $84.31 as incorrectly shown on VZ-MA Workpaper C-1, Section 39, Page 4, Line 35.1.

Additional errors exist, but are too complex to correct and explain, given their relatively small overall impact of 2% decline in switch rates. One such example is the inclusion of a combination local/tandem switches where the "getting started" cost is double counted in both the end office switch usage cost and the tandem usage cost. This is despite VZ-MA's denial that it has combination local/tandem switches in Massachusetts (see Verizon's response to ATT 4-50).

[4]   The results can be seen on the summary sheets of the following workbook that contains the full analysis: "Defragmented MA-01-20 Switching Elements Monthly.xls." This workbook has been provided electronically in Exhibit CP-7(revised). These recalculations also include VZ-MA's corrections to the common trunk MOU provided in response to ATT-4-46.

1   price, but instead receive substantial discounts off the

2   list price from the switching vendors. This is true for

3   VZ-MA, just as for all other large telephone companies.

4   Thus, in order for SCIS to compute a net price, discount

5   inputs must be entered into the program.

6 Q. **PLEASE DEFINE "NEW" AND "GROWTH" SWITCH DISCOUNTS**

7 A. Switch manufacturers typically provide a larger discount

8   for purchasing a new switch compared to a lower discount

9   for purchasing add-on growth equipment to an existing

10   switch. VZ-MA calls this a two-tier discount structure.

11 Q. **WHY IS IT INCORRECT FOR VZ-MA TO USE GROWTH PRICES IN THE**

12   **COST STUDY?**

13 A. There are two reasons why growth-only prices are incorrect,

14   each of which I'd like to explain in more detail:

15   First, the use of growth only prices violates long-

16   run, forward-looking economic cost methodology. In fact,

17   VZ-MA's methodology violates all forms of cost methodology

18   because it inappropriately mixes and matches different, and

19   competing, methodologies in the same study.

20   Second, it is simply mathematically incorrect to use a

21   growth discount as an input to SCIS.

1   Q.   HOW DOES THE USE OF GROWTH-ONLY PRICES VIOLATE LONG-RUN

2   FORWARD-LOOKING COST METHODOLOGY

3   A.   A long-run study assumes that all costs are avoidable. The

4   reason for this assumption is to ensure that the total cost

5   of a switch is included, not just the small cost of adding

6   incremental traffic to an existing switch. VZ-MA, however,

7   does not take a long run view that assumes the entire

8   switch's forward-looking replacement cost must be

9   identified. Instead, VZ-MA assumes a short-run view,

10   declares that it will not purchase new digital switches and

11   therefore asserts that the only relevant cost is the price

12   of growth equipment being added to existing switches.

13 Q.   DOES THAT MEAN VZ-MA'S COST STUDY IS SHORT RUN?

14 A.   No. VZ-MA only uses this assumption to determine what

15   price level to use. VZ-MA then goes on to apply the higher

16   growth price to all of the switch equipment, not just the

17   add-on equipment.

18 Q.   IF VZ-MA'S COST STUDY IS NOT SHORT-RUN, WHAT IS IT?

19 A.   It is neither long-run nor short-run, it is simply

20   incorrect. It mixes a short-run approach to prices (which

21   are higher than long-run new switch prices) with the long-

22   run approach of including the total cost of the switch

23   (which is higher than the short-run incremental cost of

24   including just the growth equipment), thereby selectively

1   mixing methodologies that inappropriately inflate UNE

2   costs.

3 **Q.   WHAT SHOULD VZ-MA DO WITH RESPECT TO SWITCH PRICES?**

4 A.   VZ-MA should follow the long-run, forward-looking economic

5   methodology rules provided by the FCC that call for a

6   reconstructed network to serve reasonably foreseeable

7   demand.

8 **Q.   WHAT ARE THE RELEVANT FCC RULES?**

9 A.   TELRIC requires assuming the long-run so that all

10   investments become avoidable – thus leading to the FCC rule

11   that a new network be built using the existing wire center

12   locations. In its First Local Competition Order released

13   in August 1996, the FCC stated (in paragraph 672):

14   "Having concluded in Section II.D., above, that
15   we have the requisite legal authority and that we
16   should establish national pricing rules, we
17   conclude here that prices for interconnection and
18   unbundled elements pursuant to sections
19   251(C)(2), 251(C)(3), and 252(d)(1), should be
20   set at forward-looking long-run economic cost."
21
22   The Order defines long-run in paragraph 677:

23   "The term 'long run' in the context of 'long run
24   incremental cost' refers to a period long enough
25   so that all of a firm's costs become variable or
26   avoidable."
27
28   and in paragraph 690:

29   "The increment that forms the basis for a TELRIC
30   study shall be the entire quantity of the network
31   element provided."
32

1   and in paragraph 685:

2   "We, therefore, conclude that the forward-looking
3   pricing methodology for interconnection and
4   unbundled network elements should be based on
5   costs that assume that wire centers will be
6   placed at the incumbent LEC's current wire center
7   locations, but that the reconstructed local
8   network will employ the most efficient technology
9   for reasonably foreseeable capacity
10   requirements."
11
12   VZ-MA attempts to confuse these straightforward principles

13   by talking about not replacing digital switches and that

14   they would be only "growing" these switches at a higher

15   cost than purchasing new switches. VZ-MA claims it is

16   using forward-looking assumptions, but there is a glaring

17   omission of references to long run.[5] This is a direct

18   violation of the FCC's rules requiring that a reconstructed

19   network be costed to serve the entire quantity of the

20   network element provided. VZ-MA also talks about actual,

21   incremental costs – but again, the increment that must be

22   studied according to the FCC's rules is the entire switch

23   demand, not just the next three years' demand.

24   It is also important to note that the assumption of

25   developing a reconstructed, forward-looking network is a

26   convention for performing a long-run economic cost study –

27   and is not remotely related to the highly theatrical VZ-MA

28   diatribe about the "life and death" worldwide

1   recall/replacement of Firestone tires. The FCC's rules

2   don't require a break-neck replacement of switches as

3   though the lives of all end-user customers hang in the

4   balance, and its economic cost convention of assuming a

5   reconstructed network should not be taken to such an

6   extreme, as suggested by Verizon. Dramatics aside, it

7   simply means that the cost of a total new switch should be

8   the starting point for developing switch costs.

9   Moreover, VZ-MA's inflammatory Firestone argument, if

10   taken to its "logical" conclusion, would apply equally to

11   the building out of its entire outside plant network, as

12   well. Were the same extreme logic applied to outside plant,

13   then cost of copper, fiber, poles, installer's labor rates,

14   etc. would all be extraordinary, and would not reflect

15   VZ-MA's forward-looking costs of doing business, nor would

16   they be representative of costs of any carrier in a

17   competitive marketplace. Switching must be afforded the

18   same replacement network economic costing logic as is used

19   elsewhere in the network cost studies.

20 **Q.   WHAT ECONOMIC COST METHODOLOGY IS VZ-MA USING FOR**

21   **SWITCHING?**

22 A.   VZ-MA is assuming the discounted price structure only of

23   incrementally growing its switches, not the discounted

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[5]   See Panel Testimony, page 143.

14

1   price structure for a newly constructed switch that serves

2   the entire demand.

3   It warrants emphasis that earlier this year, the

4   United States District Court for the District of Delaware

5   explicitly rejected Bell Atlantic's no new digital switch

6   argument and its attempt to evade use of the aggressive new

7   switch purchase discounts -- as contrary to TELRIC.[6]

8   Also, as noted by the Delaware federal court, VZ's

9   witness Dr. Taylor plainly recognizes both the FCC's "long

10   run" and "reconstructed local network" requirements for

11   developing VZ's forward-looking economic costs for

12   switching. As to the FCC's long run requirement, the Court

13   cited Dr. Taylor's testimony that the FCC's Local

14   Competition Order

15   "says rip every switch out.   All of them...every
16   switch in the network, rip them out. Leave the
17   ...wire center location where they [sic] are.
18   And build the network that you would build today
19   to serve the demand."[7]
20
21   The Court also cited Dr. Taylor's testimony in which he

22   characterized the Local Competition Order's reconstructed

23   local network requirement as follows:

24   "I take that to mean that all elements of the
25   local network, including the switches, including

---

[6] Bell Atlantic-Delaware, Inc. v. McMahon, 80 F. Supp. 2d 218, 236-239
     (D.Del. 2000).

[7] 80 F. Supp. 2d at 238.

1   the building that surrounds the switch...all of
2   those elements get rebuilt as if the neutron
3   bomb had flattened them."[8]
4
5   Against this background, VZ-MA's current insistence on

6   growth-only switch prices is indefensible.

7   **Q.   HOW SHOULD VZ-MA USE THE RULES TO DETERMINE THE CORRECT**

8   **SWITCH PRICE?**

9   A.   VZ-MA should use the discount that most closely

10   approximates its forward-looking cost of a new switch so

11   that a newly constructed network can be built to serve all

12   reasonably forecasted demand.

13 **Q.   WHAT NEW SWITCH PRICE SHOULD VERIZON HAVE USED?**

14 A.   The cost study should be long-run, and in an ideal world,

15   we could determine the cost of replacing digital switches

16   with the next technology, if, in fact, VZ-MA does not

17   purchase any new digital switches. We agree that, at some

18   future date, packet-based switches will probably be the

19   primary switching vehicle in the network. As the timing is

20   uncertain, it would be premature to assume a network using

21   packet technology for voice. We can be certain, however,

22   that efficient companies will add packet switches only when

23   they are cheaper on a unit basis than purchasing digital

24   switches. A rational company would not rip out fully

25   functioning switch equipment unless it could replace it

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[8]   80 F. Supp. 2d at 238.

1   with a more efficient technology. Therefore, the cost of a

2   *new* digital switch is a conservatively high estimate for

3   the next generation of switch technology and should be used

4   in the cost study.

5   Q.   **HOW CAN A NEW SWITCH PRICE BE DETERMINED?**

6   A.   There are two sources for identifying the cost of a new

7   switch: Competitive bids and switch manufacturer

8   contracts. I have reviewed the competitive bids and switch

9   manufacturers' contracts provided by Verizon in response to

10   discovery requests.

11   VZ-MA provided examples of competitive bids[9] for

12   recently purchased new switches that illustrate that much

13   higher discounts can be obtained from the switch vendors

14   than what is contained in the contracts[10] VZ has with its

15   vendors. In essence, the vendor contracts are the maximum

16   price that Verizon could expect to pay.

17   Q.   **DOES VZ-MA RECEIVE NEW AND GROWTH SWITCH PRICE DISCOUNTS?**

18   A.   Yes. VZ-MA claims that the "current contract with Lucent

19   no longer has a two-tier discount structure." While this

20   statement is true, it is misleading. Lucent has maintained

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[9]   Verizon Response to ATT-2-30. Relevant pages attached as Proprietary
    Exhibit CP-2. The competitive bids are not for Massachusetts switch
    purchases, but are relevant benchmarks because Verizon purchases switches
    on an entity-wide basis, not just for Massachusetts and so the prices in
    other jurisdictions are relevant here.

[10] Response to ATT 3-1, relevant pages attached as Proprietary Exhibit CP-3.

1   a new switch discount vs. growth discount structure, but

2   has greatly expanded the growth discount structure into

3   multiple discounts based on the type of equipment being

4   purchased as described in VZ-MA panel testimony, page 139.[11]

5   VZ-MA's assertion that Lucent has "replaced it [the two-

6   tier discount structure] with a one-tier discount

7   structure" is also misleading, at best.[12]

8 **Q.   WHAT CONTRACT CONTAINS THE NEW SWITCH PURCHASE DISCOUNT?**

9 A.   As VZ-MA admitted, the so-called Megabid contracts are

10   still in effect until the year 2003.[13] The contract with

11   Lucent permits VZ to purchase new switches under this

12   contract at the discount price for new switches.

13 **Q.   PLEASE EXPLAIN WHY YOU BELIEVE THE EXISTING MEGABID**

14   **CONTRACT IS STILL VALID FOR NEW SWITCH PURCHASES.**

15 A.   As VZ-MA stated in its Panel Testimony on pages 141 and

16   142, multiple amendments and small new contracts were

17   signed; however, none of these alter the ability of VZ-MA

18   to purchase a new switch under the Megabid contract that is

19   effective until 2003. The amendments and new contracts

20   apply to developing multiple discounts for various types of

21   growth equipment and special software purchases. The

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[11] And as documented in the contracts that were provided to AT&T for review
      by Verizon in response to ATT-3-1.

[12] VZ-MA Panel Testimony, page 141.

18

1   amended growth discounts replace the original growth

2   discounts in the Megabid contract and contain instructions

3   to place the amended growth discounts *below* the new switch

4   discounts of the original Megabid contact, thereby leaving

5   the original new switch discount unchanged.[14]

6 **Q.**   **VZ-MA CLAIMS THAT THE MEGABID CONTRACT APPLIED TO ANALOG**

7   **SWITCH REPLACEMENTS AND ONLY 3.46 MILLION LINES. IS THIS**

8   **CORRECT AND IS IT RELEVANT?**

9 A.   It is correct to a point. The Megabid contract was

10   negotiated with a commitment by Verizon to purchase a

11   minimum number of lines, but there is no maximum and the

12   contract is still in effect and represents the maximum

13   price Verizon would pay to purchase a new switch.

14   The number of lines in the embedded network purchased

15   at a particular price, however, is not relevant in a

16   forward-looking long-run cost study, even if the contract

17   previous to 1993 provided even more aggressive pricing.

18   The crucial issue here is that the Megabid contract

19   provides for the lowest new switch discount that VZ-MA

20   could expect to receive when purchasing a new switch today,

21   and thus represents a conservative long-run, forward

22   looking price for switching.

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[13]   VZ-MA Panel Testimony, page 142

1   **Q.   WHERE DID YOU OBTAIN THE DISCOUNTS USED IN YOUR RESTATEMENT**

2   **OF VZ-MA'S RATES?**

3   A.   Although we certainly are justified in using the largest

4   discounts that VZ received in competitive bids, we

5   conservatively chose to use the contract discounts as the

6   basis for the restatement.

7   **Q.   WHAT DISCOUNTS DID YOU CHANGE?**

8   A.   After comparing the contract discounts for new switches, it

9   was clear that only Lucent's discounts needed to be

10   changed, and that the discounts used for purchases from

11   Nortel need not be restated.

12   **Q.   WHY WOULD DISCOUNTS FROM ONLY ONE MANUFACTURER HAVE TO BE**

13   **CHANGED?**

14   A.   VZ-MA's cost study illustrates, but is not the reason for,

15   why only Lucent's discount input needed to be adjusted.

16   There is a massive disparity between the two vendors'

17   average cost per line (total switch investment divided by

18   total lines served) in VZ-MA's cost study. Nortel DMS is

19        $88 per line while the Lucent 5ESS is $169 per line – more

20   than twice as high. This difference is not rational and

21   does not accurately reflect the pricing that exists in the

22   highly competitive switch vendor market. The two switch

23   vendors are essentially identical with respect to

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[14]   See Proprietary Exhibit CP-3 for relevant pages of the contracts.

1   capabilities and functions in the switch products and

2   compete primarily on price.

3 **Q.** **DOES THE DISPARITY IN COST BETWEEN THE VENDORS MAKE SENSE**

4   **GIVEN THAT VZ-MA ARGUES THAT IT USES A MIX OF TWO SWITCH**

5   **VENDOR TECHNOLOGIES TO ENSURE A DEGREE OF STRATEGIC**

6   **DIVERSITY.**

7 A.   No. VZ-MA may define strategic diversity to exclude switch

8   prices, but that would be nonsensical. A fiscally

9   responsible company would ensure multiple suppliers, but

10   not at a massive cost differential.

11   When the discount for Lucent switches was revised to

12   correspond with the contract new switch discount, the

13   average price per line is $87.[15]

14 **Q.** **BUT IF YOU CHANGED ONE SWITCH MANUFACTURER'S DISCOUNT TO**

15   **REFLECT NEW SWITCHES AND YOU DIDN'T CHANGE THE OTHER**

16   **MANUFACTURER'S DISCOUNT THAT VZ-MA CHARACTERIZES AS THE**

17   **GROWTH ONLY DISCOUNT, AREN'T YOU INAPPROPRIATELY MIXING NEW**

18   **AND GROWTH?**

19 A.   No. We also reviewed Nortel's contract to determine its

20   new switch discount and agree with VZ-MA that "..the

---

[15] This analysis can be seen in the electronic workpapers filed with this
      rebuttal testimony in Exhibit CP-7(revised), filename "Defragmented MA-01-
      20 Switching Elements MOU.xls" sheet labeled 'WP S4 Total EO Material' and
      "Recalculated MA-01-20 RecipComp.xls".

1   current Nortel contract new or "replacement" discount is

2   very close to its growth discounts."[16]

3 **Q.**   **HOW CAN SUCH A DISPARITY BETWEEN THE SWITCH MANUFACTURERS**

4   **DISCOUNTS AND AVERAGE PRICES PER LINE EXIST?**

5   These differences exist only within the realm of VZ-MA's

6   cost study and they are attributable to the flawed

7   methodology VZ-MA used to develop its growth discount

8   inputs.

9   VZ-MA studied actual equipment purchases for one year

10   and compared the list price with the net price to determine

11   its growth discount inputs.[17] The range of discounts is

12   similar for the two vendors, but apparently the mix of

13   types of equipment purchases must have been dramatically

14   different between the vendors in order for the huge

15   difference in average growth discounts to occur.[18] VZ

16   apparently did not ensure that its discount development

17   analysis studied similar purchases between the vendors,

18   necessary to avoid skewing the results. Nor is there is

19   any reason to expect that the limited purchases included in

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[16] VZ-MA Panel Testimony, page 140.

[17] See Verizon's Workpaper C-P: Switch Discount Development,
Exhibit Part C-P2, page 1.

[18] Verizon-MA couldn't even determine whether the purchases were associated
with new, growth or upgrade equipment. See Verizon's response to ATT 4-
37. VA-MA did admit that the purchases did not include every component
required to build a new switch (see Verizon's response to ATT 4-40 and
ATT 4-41).

1   VZ's discount development analysis are representative at

2   all of what an "average" growth discount would be in the

3   future.

4 Q. **CAN SCIS BE USED TO PRODUCE A CORRECT SWITCH PRICE USING**

5   **ONLY GROWTH DISCOUNTS?**

6 A. No. SCIS is a "static" model and is designed to estimate

7   the price of a new switch. It was not designed to

8   dynamically model a switch that grows over time.[19] VZ-MA's

9   input of only growth discounts is a serious misuse of the

10   SCIS model. A significant portion of the SCIS-produced

11   price for a switch is for the "getting started" equipment,

12   or first cost of the switch.[20] This equipment is only

13   purchased with the initial installation and would receive a

14   new switch discount. In addition, all lines and trunks

15   purchased at the initial installation of a new switch (and

16   usually lines and trunks purchased for a number of years

17   afterward) would also receive the new switch discount.[21]

---

[19] Performing a dynamic cost study is extremely difficult, requires extensive
      demand analysis, and has not been used, to my knowledge, in the telephone
      industry for determining the costs of retail services or wholesale
      elements. Telephone cost studies used as the basis of rate-setting, to my
      knowledge, have always studied the costs of the network as a "snapshot"
      and SCIS was designed and developed, along with all other cost models of
      which I am aware, to perform just such a "static" analysis.

[20] In VZ-MA's cost study, the "getting started" cost is 28% of the total
      investment. See Workpaper C-2, Section 4, Page 1 of 3. Cf. footnote 5
      and the accompanying text, above.

[21] Note that most digital switches were installed to replace an analog switch
      that was already serving the wire center. When a digital switch was
      purchased under the new switch Megabid agreement, all of the replacement

1   When VZ-MA improperly uses the growth switch discount

2   in running SCIS, SCIS takes that discount and applies it

3   uniformly across all switch components, including the

4   "getting started" equipment and all the lines and trunks

5   purchased as part of a new switch that would not be

6   purchased at the higher growth discount. This results in a

7   serious overstatement of the total switch investment. It

8   is incorrect to enter only a "growth" discount into SCIS

9   when the program will ultimately apply that lower growth

10   discount to large amounts of equipment that is purchased

11   only as part of a new switch purchase and thus in reality

12   would receive the higher new switch discount.

13   **IV.   TRUNK UNDERUTILIZATION INPUTS CAUSE INFLATED COSTS IN VZ-**
14   **MA'S COST STUDY**

15
16   **Q.   WHAT ARE THE TRUNK UTILIZATIONS IN VZ-MA COST STUDY?**

17   A.   VZ-MA's inputs to SCIS average just over 15 busy hour

18   CCS/trunk[22] per end office trunk, which equates to 25.63

19   minutes of use in the busy hour of the switch and less than

20   18 CCS/trunk per tandem trunk, which equates to

21   approximately 30 minutes of use in the busy hour.[23] A

22   trunk's theoretical capacity is 36 CCS, but this is not

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lines and trunks purchased as part of the new digital switch would receive
the new switch discount.

[22] CCS is centum call seconds and is a standard measure for traffic
engineering. One CCS is 100 seconds, or 1.66 minutes, of use.

1   realistically achievable. A conservatively realistic

2   average trunk utilization would be at least 20 busy hour

3   CCS/trunk or almost 33 minutes of use in the busy hour of

4   the switch.[24] By assuming trunk utilization that is only 80

5   percent of what it should be in an efficient, forward-

6   looking network, VZ-MA has assumed substantial

7   underutilization of trunk port capacity.

8   Q.   HOW DOES THIS UNDERUTILIZATION AFFECT THE COSTS IN THE

9   VZ-MA STUDY?

10   A.   The common end office and tandem trunk port MOU rate

11   element costs are inflated by the understated utilization.

12   Q.   SHOULD VZ-MA'S INPUTS BE BASED ON ACTUAL USAGE OF ITS

13   EMBEDDED TRUNK NETWORK?

14   A.   No – not for a forward-looking cost study. The inputs

15   should reflect what an efficient carrier in a competitive

16   market could achieve. It would be expected that an

17   efficient carrier would maximize trunk utilizations.

18   Q.   HOW IS THIS UNDERUTILIZATION ERROR COMPOUNDED THROUGHOUT

19   THE COST STUDY?

20   A.   Not only do the usage inputs to SCIS reflect severe

21   underutilization, but then VZ-MA also enters a 95% fill

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[23]   See Verizon's WP Part C-2, Section 4, Page 2 of 3.

[24]   Using an Erlang B lookup table (used by trunk engineers to determine
       appropriate trunk sizing based on traffic demands) for a 50-member trunk
       group with .1% blocking, the utilization would be 22.3 CCS/trunk.

1   factor into SCIS that divides the cost of a trunk by 95%,

2   thereby increasing the cost and lowering the effective

3   utilization.[25]   VZ-MA then compounds the problem by applying

4   a second utilization adjustment of 94.28% separately into

5   the cost study spreadsheets to further reduce the

6   utilization and further inflate the trunk port and trunk

7   minute of use elements of its proposed switching rates.[26]

8 **Q.   WHAT ADJUSTMENT DO YOU RECOMMEND IN THE RESTATED RATES?**

9 A.   The trunk CCS inputs on WP C-2, Section 4, Page 2 should be

10   increased to 20 CCS per trunk.

11 **Q.   WHAT IMPACT DOES THIS ADJUSTMENT HAVE ON THE COSTS?**

12 A.   Increasing the average trunk utilization to a conservative

13   20 CCS per trunk for end office and tandem trunks decreases

14   the common trunk MOU rate element by 23% and the tandem

15   trunk MOU by 11%.[27]

16 **Q.   VZ-MA ASSUMES TOO FEW LINES ON INTEGRATED DIGITAL LOOP**

17   **CARRIER, THEREBY INFLATING COSTS. HOW MUCH IDLC HAS VZ-MA**

18   **ASSUMED IN ITS SWITCH STUDY?**

19 A.   VZ-MA has assumed 25% of the lines are on integrated

20   digital loop carrier.

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[25]   See Verizon's WP Part C-1, Section 38 Page 4 of 4.

[26]   See Verizon's WP Part C-1, Section 5, Page 1, Line 2. This applies also
       to tandem trunks as well.

[27]   This analysis can be seen in the electronic workpapers filed in
       Exhibit CP-7(revised), filename "Defragmented Trunk MOU MA-01-20 Switching
       Elements MOU.xls" and "Defragmented Trunk MOU MA-01-20 RecipComp.xls".

1   **Q.**   **SHOULD VZ-MA ASSUME ALL DIGITAL LOOP CARRIER IS INTEGRATED?**

2   A.   Yes. The only UNE line-side switch ports that will be

3   purchased by competitive carriers will be those associated

4   with UNE-P.[28] The switch ports being costed, therefore,

5   would be either copper analog ports or fiber fed GR303-

6   compliant integrated digital loop carrier. Fiber fed loops

7   that VZ-MA asserts would have to be demultiplexed down to

8   analog ports, making them 'universal' DLC is inappropriate,

9   as explained by Mr. Baranowski in his rebuttal testimony.

10   **Q.**   **HOW MUCH IDLC SHOULD VZ-MA USE IN ITS STUDY?**

11   A.   In a reconstructed network with the efficient deployment of

12   fiber-fed feeder with integrated digital loop carrier in

13   Massachusetts, there should be 49.2% lines on IDLC as

14   demonstrated by Dr. Mercer in his direct testimony. The

15   embedded percentage of IDLC in VZ-MA's network is

16   irrelevant in a forward-looking cost study. The correct

17   amount of IDLC should be increased from 25% to 49.2%.

18   **Q.**   **HOW DOES THE PERCENTAGE OF IDLC AFFECT THE SWITCH COSTS?**

19   A.   Compared to the improper assumption of inefficient UDLC,

20   IDLC reduces not only the IDLC ports' cost, but the blended

21   UNE-P port rate as well because the blended UNE-P port is a

22   meld of analog and IDLC port costs. The net effect of

---

[28]   I can think of no instance where a carrier would have its own loop, but
require the incumbent's switch.

1   assuming 49.2 percent IDLC rather than the improperly low

2   25% assumed by Verizon results in a 29% reduction in the

3   cost of IDLC port rates, and a 27% reduction in the melded

4   UNE-P port rate.[29] The restated rates attached to this

5   rebuttal testimony include this adjustment.

6 **V.   FEATURE PORT ADDITIVES ARE INCORRECT**

7
8 **Q.   WHAT TYPES OF EQUIPMENT ARE INCLUDED IN VZ-MA'S CLAIMED**

9 **FEATURE PORT ADDITIVES?**

10 A.   According to VZ-MA, these claimed costs represent unique

11   hardware that must be purchased in order to provision

12   features.

13 **Q.   HOW DOES VZ-MA COMPUTE THE CLAIMED COST OF THIS EQUIPMENT?**

14 A.   VZ-MA says it used the feature module (SCIS/IN) of the SCIS

15   program to calculate most of these costs.

16 **Q.   HOW DOES THE DISCOUNT INPUT DISCUSSION ABOVE AFFECT THE**

17   **FEATURE MODULE OF SCIS?**

18 A.   The SCIS/IN program also requires discount inputs to be

19   entered so that net prices for feature-related hardware can

20   be correctly calculated. VZ-MA's claimed feature

21   investments, therefore, have been similarly overstated due

22   to incorrect discount inputs.

---

[29] This analysis can be seen in electronic workpapers filed as Exhibit
CP-7(revised), filename "Defragmented IDLC at 49.2% effect on melded port
rate.xls".

1 **Q.**   **WHAT CORRECTIONS NEED TO BE MADE TO VZ-MA'S FEATURE PORT**

2   **ADDITIVES?**

3 A.   The investments for feature port additives[30] should be

4   reduced as shown in the restated rates in Exhibit

5   CP-1(revised). The restated rates for feature port

6   additives include the overall investment decline of 35%[31],

7   the reduction associated with the EF&I factor, and other

8   corrections to cost factors proposed by Mr. Baranowski.

9 **Q.**   **ONCE THE DISCOUNT INPUTS ARE CORRECTED, ARE THE FEATURE**

10   **COSTS RIGHT?**

11 A.   No. VZ-MA did not provide any substantiation for any of

12   its inputs used to calculate the feature port additives.

13   SCIS/IN requires inputs reflecting multiple traffic

14   estimates of feature usage for each feature. The most

15   common input requires estimating how often, on average, a

16   feature will be used in the busy hour by each customer that

17   has the feature. Derivation of these inputs is

18   particularly difficult. Typically, changing an input for

19   the number of times a feature will be used will linearly

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[30] Found in Verizon's workpapers, Section 39 of Part C: Switching.

[31] The feature port additives receive a 35% decrease associated with the overall decline in switch investment ($87.6/$134 = 65%) as well as the other adjustments proposed in this Testimony and reflected in the Restated Rates. This is an understatement because the overall switch decline includes the costs for main distributing frame termination costs that do not change with the discount levels. The features do not include main distributing frames, and therefore the decline applicable to features would actually be higher.

1   impact the calculated investment. For example, changing

2   the input regarding the number of times a customer uses a

3   three-way calling in the busy hour from .25 to .5 will

4   double the feature cost.

5   When asked to provide documentation or even basic

6   reasoning for feature inputs, VZ-MA could not comply. Its

7   non-responsive answers include:

8   "The inputs for studies in C-1, where the source has
9   been identified as Product Management, are based upon the
10   opinion of the respective product manager. There is no
11   additional supporting documentation available."[32]
12
13   "The inputs for features are based on the opinion of
14   the respective product manager. There is no additional
15   supporting documentation."[33]
16
17   "There was no specific usage study performed. The
18   usage inputs are based on the opinion of the product
19   manager. There is no additional supporting
20   documentation."[34]
21
22   Even though AT&T requested explanations, and not just

23   supporting documentation, apparently no one at VZ can

24   explain how these inputs were derived, even conceptually.

---

[32] Verizon's Response to ATT 4-1. This question also asked for documents and
      explanations. The answer did not address "explanations" and VZ-MA did not
      provide such a response at the time of this testimony preparation.

[33] Verizon's Response to ATT 12-15. Note that the question asked for
      documentation and an explanation of the rationale. At the preparation
      time of this testimony, AT&T did not receive any response to the portion
      of the question that asked for a "rationale" for developing the input.

[34] See Verizon's response to ATT 12-16.

1   Q.   HOW DO YOU PROPOSE TO CORRECT THESE ERRORS?

2   A.   VZ-MA has not met its burden of proof to document and

3   support its costs for features.[35] It would be appropriate

4   for the port additives to be eliminated entirely. If,

5   however, the Department declines to hold VZ-MA accountable

6   for sustaining its burden of proof for the costs VZ-MA

7   proposes, then the port additives in the restated rates

8   should be adopted.

9   VI. VZ-MA MIS-ASSIGNED COSTS TO THE USAGE ELEMENTS

10 Q.   HAS VZ-MA ASSIGNED THE SCIS RESULTS TO THE CORRECT TRAFFIC

11   SENSITIVE AND NON-TRAFFIC SENSITIVE ELEMENTS?

12 A.   No. The first cost of a switch is not traffic sensitive,

13   nor are switch RTU fees. Digital switches are port-

14   limited, not call or minute-of-use capacity constrained.[36]

15   This is true for VZ-MA, as can be seen in VZ-MA's own

16   studies showing the average processor utilizations are

17   infinitesimally small compared to the available call

---

[35] Based on the limited information received to date, AT&T/WorldCom cannot
      correct the inputs; however, should additional data be made available by
      VZ-MA, supplemental testimony may be required regarding feature inputs.

[36] See the following from major RBOC's: VZ-NY: J. Gansert's testimony, New
      York Case 95-C-0657, 94-C-0095, 91-C-1174, page 24. SWBT: Transcript (pg
      3556) of Costing Pricing Issues SWBT Arbitration PUC Docket 16226, 11/3/96
      cross of Raley. Ameritech: Direct Testimony of William Palmer, ICC
      Docket 96-0486, Ameritech-Illinois Exhibit 3.3. Pacific Bell: R. Scholl
      February, 1997, deposition in case R.93-04-993 and I.93-04-002.

1   processing capacities.[37] This level of tiny utilization is

2   not atypical for the current generation of digital switches

3   – they are designed this way and take advantage of the huge

4   economies in computer chip technologies to ensure that a

5   switch will not exhaust on processing or memory power. It

6   is safe to say that these switches will never exhaust call

7   processing capacities in their lifetimes. The appropriate

8   cost driver for today's digital switches is ports, not

9   minutes of use.

10 **Q.   OK, SO THE SWITCHES ARE PORT LIMITED. WHAT DOES THIS MEAN**

11 **FOR VZ-MA'S COST STUDY?**

12 A.   There are large amounts of processor, memory and other

13   "getting started" costs that do not vary with respect to

14   lines or trunks. The line and traffic inputs to SCIS can

15   be modified by an order of magnitude, but the "getting

16   started" cost output will not change even one penny.[38] VZ-

17   MA has allocated these substantial costs (28% of the total

18   investment) to the minute of use element and that is

19   incorrect.

---

[37]   See Proprietary Exhibit CP-4, filed herewith, which displays the average
        switch processor utilizations contained in the SCIS model as run by VZ-MA.

[38]   This can be seen by viewing the office by office results in VZ-MA SCIS
        database. The "getting started" cost does not change, except when remote
        switches are added to a host because the remote's "getting started" costs
        are added to the host's "getting started" cost.

1   The only time the "getting started" cost will be

2   replicated is when a second switch must be installed

3   because the port capacity was reached. Therefore, the cost

4   driver is ports. The "getting started" costs (and other

5   non-usage sensitive costs) should be assigned to the ports,

6   not the minute of use.

7   Just as it is imperative to ensure that non-recurring

8   costs be recovered via non-recurring cost elements, it is

9   critical that non-usage sensitive costs not be recovered

10   via usage sensitive elements.

11 **Q.**   **HOW DO YOU PROPOSE THE COST ASSIGNMENTS BE MADE WITH**

12   **RESPECT TO THE USAGE SENSITIVE AND NON-USAGE SENSITIVE RATE**

13   **ELEMENTS?**

14 A.   VZ-MA has included the SCIS outputs by detailed cost

15   category on WP C-2, Section 4, Page 1. The correct

16   assignments of the individual cost categories to the

17   appropriate element can be easily performed.

18   Some categories are obvious – line termination costs,

19   BRI and PRI costs (for ISDN line and trunks, respectively),

20   and other ISDN-related port costs are unequivocally

21   assigned to ports. The investments sensitive to CCS

22   engineering for lines and trunks, as well as the packet per

23   second (PPS) equipment for data and signaling on ISDN lines

1   should also be assigned to usage sensitive minute-of-use

2   elements.

3   However, there is a third category of equipment that

4   is not obvious and a thorough engineering and economic cost

5   analysis must be made. An engineering analysis is

6   necessary to understand the functions and capacities of the

7   equipment whose cost is being assigned; and an economic

8   cost analysis is necessary to ensure conformance to long-

9   run, forward-looking cost methodology that assigns costs

10   based on economic cost causation.

11   One major portion of this third category is the

12   "getting started" cost and the second portion is the 5ESS

13   "EPHC"[39] costs.

14   As explained above, the "getting started" cost

15   category should be assigned to ports. In addition, the

16   following dedicated port investments should be assigned to

17   ports: Line Termination, BRI-U Card (ISDN), PRI D and B

18   Channel, Add'l BRI PPB Channel, Add'l D Channel Termination

19   and Add'l XAT Channel.[40]

20 **Q.   WHAT ARE THE "EPHC" CATEGORIES AND WHERE DO THEY BELONG?**

21   A.   There are two EPHC categories (Line 2 in non-ISDN

22   investments and Line 10 in the ISDN investments) that also

---

[39]   EPHC is Equivalent POTS Half Calls.

34

1   should be assigned to ports. EPHC is an output category

2   that captures the common equipment in the switch module,

3   which is the primary building block component of the 5ESS

4   switch, which uses a "distributed" architecture. This

5   common equipment's maximum port capacity is reached before

6   its call processing capacity.[41] Therefore, the cost driver

7   is ports and the EPHC costs should be assigned to the

8   ports.

9 **Q.   WHAT SHOULD BE ASSIGNED TO THE USAGE CATEGORIES?**

10 A.   The Line CCS categories (ISDN and non-ISDN), the D Channel

11   Access PPS, PPB Channel Access PPS, Inter-Switch PPS and

12   XAT PPS should all be assigned to the usage category, as

13   well as the SS7 Link costs because this equipment is

14   engineered and purchased based on usage.

15   The trunk costs are separated and assigned to the

16   common trunk MOU, which is also usage sensitive.[42]

---

[40]   PRI are ISDN trunks, PPB and XAT are ISDN data ports.

[41]   This can be shown in the Line Termination output reports from SCIS that
will always show excess call processing capacity costs assigned to every
port because the port capacity of the switch module was reached before the
usage capacities could be completely utilized. These excess capacity
categories are known as 'Part C' of the Line termination costs.

[42]   Note that the VZ-MA's analysis and AT&T/WorldCom's restatement, the trunk
costs are initially and temporarily assigned to the non-usage costs in
Verizon's WP Part C-2, Section 4, Page 1,in order to isolate the local
switch usage costs to develop the switch MOU rate element. The trunk
costs are subsequently isolated from the non-usage category and assigned
appropriately in the Digital Trunk Port development that is then used to
calculate the common trunk MOU cost.

1 **VII. RIGHT TO USE FEES ARE UNSUBSTANTIATED AND SHOULD BE**
2 **REJECTED, AND THE RIGHT TO USE FEES ARE MIS-ASSIGNED TO THE**
3 **USAGE SENSITIVE RATE ELEMENTS.**

4
5 **Q.   HOW DID VZ-MA DETERMINE THE COSTS OF RIGHT TO USE**

6 **SOFTWARE?**

7 A.   VZ-MA's right to use software is an allocation of an

8 annualized software expense for Verizon East based on

9 historical data for 1999 and 2000 plus forecasts for 2001

10 and 2002.

11 **Q.   IS THE TOTAL RIGHT TO USE FORECASTED AMOUNT LEGITIMATE?**

12 A.   We don't know and VZ-MA didn't provide any supporting

13 documentation for the high level estimates it used.[43]

14 **Q.   WHY DO YOU QUESTION THE VERIZON-EAST RIGHT TO USE FEE**

15 **AMOUNTS?**

16 A.   Right to use fees can vary dramatically as can be seen in

17 VZ-MA's study in Part G-9, Workpaper labeled Software

18 Expenditures. There were expenditures of $377,484,055 in

19 1999, dropping to $179,189,049 in 2000, with levels

20 forecasted to drop slightly more in 2001 and 2002. VZ

21 included the 1999 levels in its levelization of the four

22 years of data, thereby severely inflating the annual

---

[43]   See Verizon's response to ATT 12-1, 12-2, 12-4,

1   estimate of costs.[44] Without any explanation of the spike

2   seen in 1999, it should not be included.

3 **Q. SHOULD BA OR VZ-MA'S CURRENT RTU EXPENDITURES BE USED TO**

4   **DETERMINE FORWARD-LOOKING RTU FEES IN A TELRIC STUDY?**

5 A. No. VZ's embedded RTU expenditures can include software

6   purchases necessary to "catch up" older switches with

7   current software programs throughout Verizon's

8   jurisdictions. In addition, a TELRIC study, as discussed

9   previously, and as recognized by VZ-MA's witness Dr.

10   Taylor, requires a completely new network to be built that

11   would eliminate the need to upgrade older generation

12   switches. A large spike could also be the result of a one-

13   time only atypical RTU purchase that simply shouldn't be

14   reflected in a forward-looking environment.

15 **Q. WHAT CORRECTIONS HAVE YOU MADE?**

16 A. We have made no corrections to the Right to Use fees

17   because the minimal amount of information provided by

18   Verizon does not allow us to make any in-depth review or

19   recommendations. If further information is provided

20   regarding these fees, AT&T/WorldCom may file Supplemental

21   Testimony.

---

[44] Note that VZ-MA went to great lengths to show that its cost study spanned
the timeframe from 2000-2003 (see Verizon's response to ATT 4-6), yet here
it uses suspect 1999 data.

1 Q. HOW WERE THE UNSUBSTANTIATED RTU COSTS ALLOCATED TO UNE

2   RATES?

3 A. VZ-MA has allocated the RTU costs to the minute of use UNE

4   rate element.

5 Q. HOW DOES VERIZON INCUR RIGHT TO USE COSTS?

6 A. Right to use fees are typically either paid on a per switch

7   basis or are paid contractually as part of a larger buy-

8   out. Buy-out contracts allow a telephone company to

9   purchase software for all (or sometimes a subset) of its

10   switches, rather than purchasing on a per switch basis.

11 Q. ARE RIGHT TO USE FEES EVER PAID BASED ON MINUTES OR CALLS?

12 A. I have never seen right to use fees charged on a minute or

13   call basis. RTU fees don't change regardless of how few or

14   how many minutes are on a switch. If the software costs

15   were to be substantiated, they should therefore be

16   allocated to the non-traffic sensitive switch port rates,

17   and not to the traffic sensitive minute of use rates.

18 Q. WHY RECOVER RTU COSTS VIA THE PORTS?

19 A. For the same reason that the "getting started" cost should

20   be recovered from ports described previously. Reaching

21   port capacity will trigger the purchase of a second switch.

22   Right to use costs are incurred primarily on a per switch

23   basis. Exhaustion of ports is the cost driver for the

24   purchase of an additional switch and the concomitant RTU

1   fees. Cost causation principles are best preserved by

2   allocating RTU fees to the ports in the same manner as the

3   "getting started" cost.

4   If for some reason the Department does not accept

5   assigning the RTU or the "getting started" cost of the

6   switch to the ports, then VZ-MA should be required to

7   allocate RTU costs to all minutes, including reciprocal

8   compensation, and not just to UNE minutes.

9   **Q.   WHAT ARE THE IMPACTS ON THE SWITCH UNE ELEMENTS WHEN THE**

10   **CORRECTION IS MADE TO ASSIGN THE USAGE SENSITIVE COSTS TO**

11   **THE USAGE SENSITIVE ELEMENTS?**

12 A.   The port costs increase 76% and 64% decrease in the usage

13   minute of use elements.[45]

14 **VIII.   SWITCH ENGINEERING AND INSTALLATION FACTORS ARE**
15   **OVERSTATED**

16 **Q.   WHAT IS THE SWITCH EF&I FACTOR?**

17 A.   The engineering, furnished and installed ("EF&I") factor is

18   the loading factor used to add items such as vendor

19   engineering, VZ-MA engineering, vendor installation and VZ-

20   MA installation, and sales tax in order to convert the

21   material only cost to a fully installed cost.

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[45]   See electronic workpapers filed herewith as Exhibit CP-7(revised),
       filename "Defragmented Reallocation MA-01-20 Switching Monthly.xls",
       Defragmented Reallocation MA-01-20 Switching MOU.xls" and "Defragmented
       Reallocation MA-01-20 RecipComp.xls."

1   Q.   **WHAT ARE OTHER TELEPHONE COMPANIES' SWITCH EF&I FACTORS?**

2   A.   Publicly available data from other telephone companies

3   indicate factors ranging from 8-12%, not including vendor

4   engineering and installation.

5   Q.   **HOW MUCH IS VENDOR ENGINEERING AND INSTALLATION?**

6   A.   SCIS can compute this portion of the engineering and

7   installation as it calculates both material only or vendor

8   engineering, furnished and installed (EF&I) costs. SCIS

9   computes 12% for vendor engineering and installation.[46]

10   Q.   **IS VZ-MA'S SWITCH EF&I FACTOR COMPARABLE TO OTHER TELEPHONE**

11   **COMPANIES?**

12   A.   No, VZ-MA's factor is clearly too high. VZ-MA's factor is

13   40.27%. For other comparable ILECs, vendor engineering and

14   installation of 12% plus 5% for sales tax plus 8% local

15   telephone company engineering and installation results in a

16   total EF&I factor of 25%, compared to VA-MA's factor of

17   more than 40%.

18   Q.   **DOES VZ-MA PROVIDE ANY REASONS WHY ITS ENGINEERING AND**

19   **INSTALLATION COSTS MAY BE HIGHER THAN OTHER COMPANIES?**

20   A.   Yes. VZ-MA admits that it always performs its own

21   engineering and installation and does not put these work

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[46]   See electronic workpapers filed herewith as Exhibit CP-7(revised),
       filename "Defragmented EF&I Factor Development.xls".

1   efforts out to competitive bid. [47]   Marketplace competitive

2   pressures that encourage efficiencies are therefore absent.

3   **Q.   WHY SHOULD THIS COMMISSION RELY UPON COMPARISONS WITH OTHER**

4   **COMPANIES AS IT CONSIDERS VZ-MA'S CLAIMED COSTS?**

5   A.   Despite repeated attempts to have VZ-MA provide

6   documentation of the activities and associated costs for

7   its engineering and installation, it has not provided any

8   support other than embedded high-level accounting numbers

9   that provide no detail about what types of functions,

10   activities and costs are included in its factor. [48]

11   Without enough information to even analyze whether a

12   very large number on a piece of paper is reasonable, the

13   only choice is to compare the numbers to other publicly

14   available data. It is reasonable that one large telephone

15   company's engineering and installation would be similar to

16   other large telephone companies. It is also reasonable

17   that a large telephone company's engineering and

18   installation costs would be much less than those of a small

19   rural telephone company. [49]

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[47]   See Verizon's response to ATT 3-4.

[48]   See Verizon's responses to ATT-3-3, 4-16, 4-21, 4-22, 15-5. VZ-MA
       responded on July 13 to a follow-up question (ATT 22-2) asking for details
       of the data that make up the EF&I costs, but the data is not helpful as it
       does not provide any information about what constitutes the In-Place cost
       compared to the material cost.

[49]   Sprint agreed that an 8% local telephone company engineering and
       installation factor was reasonable for rural telephone companies in the

1 Q.   **WHAT DO YOU PROPOSE AS A REASONABLE FORWARD-LOOKING**

2   **EFFICIENT EF&I FACTOR?**

3 A.   In a forward-looking cost study, efficient installation

4   practices should be reflected, even if the ILEC has a

5   history of inflated costs reflecting inefficient practices.

6   AT&T/WorldCom therefore propose a 25% factor as an estimate

7   of a forward-looking EF&I factor.[50]

8 IX. **RECIPROCAL COMPENSATION RATES SHOULD BE CALCULATED USING**
9   **UNE SWITCH RATES**

10 Q.   **HOW HAS VZ-MA DEVELOPED THE SWITCH PORTION OF THE DERIVED**

11   **RATES?**

12   Despite VZ-MA's admission that the switch processing of UNE

13   traffic and reciprocal compensation traffic is the same[51],

14   VZ-MA arbitrarily chose not to include the substantial

15   "getting started" costs and right to use fees in the

16   reciprocal compensation rates, even though it included

17   these same costs in its UNE usage rates.

FCC's USF proceeding. Small rural companies, with only one or two
switches, cannot achieve the same scale and scope associated with
engineering and installing large networks owned by the large telephone
companies with hundreds and even thousands of switches.

[50] The impact of the proposed 25% EF&I factor results in an 11% decline in
port and usage elements. See summary page of the following workbooks in
the electronic workpapers filed herewith as Exhibit CP-7(revised):
"Defragmented EF&I MA-01-20 Switching Elements Monthly.xls", "Defragmented
EF&I MA-01-20 Switching Elements MOU.xls" and "Defragmented EF&I MA-01-20
RecipComp.xls".

[51] See Verizon's response to ATT 12-10 and 12-11

1   A switch is engineered and purchased to handle all of

2   the traffic in total, without regard to individual users or

3   classes of service. The equipment used for a minute of

4   traffic is essentially the same, irrespective of customer

5   or service.[52]

6 **Q.**   **HOW DOES VZ-MA EXPLAIN THE CHOICE TO INCLUDE THESE COSTS IN**

7   **UNE SWITCH USAGE COSTS AND NOT RECIPROCAL COMPENSATION**

8   **COSTS?**

9 A.   VZ-MA claims it is including only incremental costs of the

10   additional traffic associated with terminating other

11   carriers' traffic. VZ-MA's story is that since reciprocal

12   compensation traffic won't cause a burden to the processing

13   capacity nor cause any increase to right to use fees, both

14   "getting started" costs and right to use fees should be

15   excluded.

16 **Q.**   **IS VZ-MA'S EXPLANATION REASONABLE?**

17 A.   No. It is an obvious attempt to maximize its UNE revenues

18   and minimize the costs of reciprocal compensation that VZ-

19   MA pays. The exact same assumptions could be said of UNE

20   traffic as well.

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[52] See Verizon's response to ATT 12-10 and 12-11.

1 Q. **ARE THERE MODIFICATIONS YOU ARE RECOMMENDING TO VZ-MA'S**

2 **STUDY THAT WILL VIRTUALLY ELIMINATE THIS ENTIRE PROBLEM?**

3 A. As discussed above, the "getting started" cost of a switch

4 (or its right to use fee, as discussed above) should not be

5 included in the usage UNE elements in the first place

6 (these costs properly belong in the port elements). When

7 this correction is made, the argument about allocations of

8 "getting started" costs and right to use fees to UNEs

9 versus reciprocal compensation is moot because the costs

10 are fully assigned to the ports where they belong.

11 If, however, the Department does not accept

12 AT&T/WorldCom's proposal to reallocate the "getting

13 started" cost and the RTU fees to the ports, then these

14 costs must be fairly apportioned to all traffic, including

15 reciprocal compensation, and not just to UNE switch usage

16 rates.

17 X. **SUMMARY AND CONCLUSION**

18 Q. **PLEASE SUMMARIZE YOUR TESTIMONY**

19 A. After a thorough review of VZ-MA's switch cost study, it is

20 clear that fundamental flaws exist that create severe

21 overstatements in switch UNE elements. The flaws include

22 using an incorrect growth only switch price for a long-run

23 study, a fatally flawed methodology for developing the

1   discount inputs, understatement of trunk utilization

2   inputs, assuming a mix of integrated digital loop carrier

3   lines and copper analog that is not forward-looking, right

4   to use fees and feature port additives with questionable

5   inputs (for which VZ-MA has been unable to sustain its

6   burden of proof), an engineering and installation factor

7   that is too high and a mis-allocation of non-traffic

8   sensitive port-related costs to the local switch usage rate

9   element.

10   The restated rates in Exhibit CP-1(revised)

11   incorporate all the corrections described in detail in this

12   testimony as well as the various factor corrections

13   proposed by Mr. Baranowski.[53]

14 **Q.   PLEASE STATE YOUR CONCLUSIONS.**

15   VZ-MA's cost study is fatally flawed for all the reasons

16   above and should be rejected. If the Department does not

17   accept the HAI model and its results as a foundation for

18   switch UNE costs, then VZ-MA's study must be corrected as

19   described here and the results presented in Exhibit

20   CP-1(revised) should be adopted.

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[53]   To review the corrections in this testimony without Mr. Baranowski's
factor changes, please see the electronic workpapers filed with this
rebuttal testimony as Exhibit CP-7(revised), filename: "Defragmented All
Switch MA-01-20 Switching Elements Monthly.xls", "Defragmented All Switch
MA-01-20 Switching Elements MOU.xls" and "Defragmented All Switch MA-01-20
RecipComp.xls".